PP-195

WILSON-7
ENERGY SYSTEMS INC.
#62 Thicket • Irvine, California 92714 • 714/786-4182

November 07, 1998

Ms. Ellen Russell
Office of Coal & Power Import/Export
Office of Fossil Energy
1000 Independence Avenue S. W.
Washington, D.C.

Subject: Wilson-7 Energy Systems Inc. -- Wilson-7 Project
Presidential Permit Application

Dear Ms. Russell,

Enclosed for filing on behalf of Wilson-7 Energy Systems Inc. are:

[] An original and ten copies of the Application of Wilson-7 Energy Systems For Presidental Permit

[]A check in the amount of $150.00 payable to the Treasurer of the U.S.

Sincerely,

Frank H. Wilson

Frank H. Wilson

DOE RECEIVED
98 NOV 10 A 9:10

U.S.A.
Department of Energy
Office of Fossil Energy

[] Wilson-7 Energy Systems Inc. No. PP-195

APPLICATION FOR PRESIDENTIAL PERMIT

Our company, Wilson-7 Energy Systems hereby applies for authorization from the Department of Energy for the construction, connection, operation, and maintenance of facilities for transmission of electric energy at the international boundary between the United States and Mexico. The approval for the export of 6,000 MW of electric energy and a new grid line (from the United States to Mexico) is sought in this Application.

Wilson-7 proposes to construct three power plant (with the capacity 2,000 MW per plant) in Hudspeth County, Texas near the border. Wilson-7 project will cross the border at Fort Hancock. A (600KVDC or 800KVDC or 1000KVDC or 1200KVDC) transmission line from the switch yard West to the U.S. -- Mexico border. Wilson-7 Project will use natural gas as its sole fuel. The Purpose of the transmission line is to supply electric capacity to Mexico and Country South. The sole output of the power plant is for export to Mexico and Country South.

Wilson-7 is holding discussions with a number of potential power purchases in Mexico, including the Comision Federal De Electricidad.

The power plant in the U.S. will allow interconnection to two main gas pipeline. The financing terms are available by having the facility located in the U.S. as opposed to Mexico.

In support of its application, Wilson-7 Project:

[a]INFORMATION REGARDING THE APPLICATION

1. THE LEGAL NAME OF THE APPLICATION
   Wilson-7 Energy Systems Inc.

2. THE LEGAL NAMES OF ALL PARTNERS:
   None at present (One or more additional entities)

3. THE NAME, TITLE, ADDRESS AND TELEPHONE NUMBER OF THE PERSON TO WHOW CORRESPONDENCE
   Frank H. Wilson
   62 Thicket Street
   Irvine, California 92614
   Telephone: 949-786-4182
   Fax: 949-559-9443

4. THE APPLICATION OR ITS TRANSMISSION LINES ARE OWNED ENTIRELY OR IN PART BY A FOREIGN GOVERNMENT OR DIRECTLY OR INDIRECTLY ASSISTED BY A FOREIGN GOVERNMENT
   Wilson-7 Energy Systems Inc. is currently the sole project developer. Negotiations are currently occuring that could result in the establishment one or more additional entities. All ownership entities will be disclosed to the DOE.

5. LIST ALL EXISTING CONTRACTS THAT THE APPLICATION HAS WITH ANY FOREIGN GOVERNMENT OR ANY FOREIGN PRIVATE CONCERNS, RELATING TO THE PURCHASE, SALE, AND DELIVERY OF ELECTRICITY
   At present, Wilson-7 has no contracts in force with any foreign government or any foreign private concerns, relating to the purchase, sale, or delivery of electricity. All contract entities will be disclosed to the DOE.

[b] INFORMATION REGARDING THE TRANSMISSION LINES TO BE COVERED BY THE PRESIDENTIAL PERMIT

1. THE SIGNED OPINION OF COUSEL
   See Exhibit B

2. A TECHNICAL DESCRIPTION OF THE PROPOSED TRANSMISSION LINES
   See Exhibit C

3. A GENERAL AREA MAP AND A DETAILED MAP SHOWING THE PHYSICAL LOCATION, LATITUDE AND LONGITUDE OF THE FACILITY ON THE INTERNATIONAL BORDER.
   Wilson-7 Project will cross the border at Fort Hancock, or Arcala or or Indian Hot Springs (Latitude 31 and Longitude 104)
   See Exhibit D

[c] INFORMATION REGARDING THE ENVIRONMENT IMPACTS SHALL BE PROVIDED FOR EACH ROUTING ALTERNATIVE

The Environmental Assessment Report which will be filed later pursuant to this application will contain all of the information requested concerning environmental impacts.

[d] A BRIEF DESCRIPTION OF ALL PRACTICAL ALTERNATIVES TO THE PROPOSED FACILITY AND A DISCUSSION OF THE GENERAL ENVIRONMENTAL IMPACTS OF EACH ALTERNATIVE

Discussed in the Environmental Assessment Report

EXHIBIT A.

AGREEMENTS

NOT APPLICABLE AT THIS TIME

EXHIBIT B.

OPINION OF COUNSEL

EXHIBIT B

STATEMENT OF OPINION OF COUNSEL

The undersigned being counsel for WILSON-7 ENEGRY SYSTEMS, INC. ("Applicant"), the applicant for a Presidential Permit Authorizing the Construction, Connection, Operation, and Maintenance of Facilities for Transmission of Electronic Energy at International Boundaries, states and gives his opinion, pursuant to 10 CFR Section 205.322(a)(6) of the Regulations of the Office of Utility Systems of the Economic Regulatory Administration as follows: (a) that he has examined and is familiar with the corporate powers of Applicant, pursuant to the Applicant's Articles of Incorporation and By-laws; (b) that he has examined and is familiar with the content of the application to which this statement of opinion is attached as an exhibit; (c) that in his opinion the construction, connection, operation and maintenance of the facility as proposed in said application is within the corporate powers of Applicant; and (d) with respect thereto, Applicant has complied, and authorized representative of Applicant has represented to him that Applicant will comply, with all pertinent Federal and State laws.

Date: 1/28/98

George Vausher

George A. Vausher, Esq.
Counsel for Applicant

EXHIBIT C

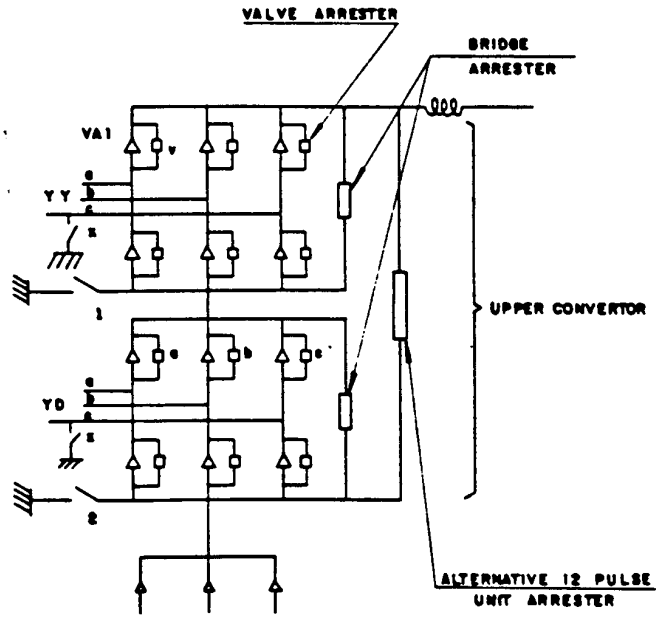
TECHNICAL DESCRIPTION OF THE PROPOSED TRANSMISSION LINES

A. Converter Arrangements:

The bridge and valve arresters stresses and the insulation coordination are analysed for the following converter arrangements that were considered to be the most representative. The evaluation of arrangements can be approximately done by proper interpolation.

Converter Arrangement	Number of 12 pulse convertor units	Convertor unit voltage (KV)	DC system voltage (KV)
1	4	300	1200
2	3	400	1200
3	2	600	1200
4	2	400	800

The arresters protective scheme is shown in Table 1. and consists of valve arresters and unit arresters. Two bridge arrester arrangements are alternatively used, one relying on twelve-pulse convertor unit arrester and another on six-pulse bridge arrester.



Data Used In The Calculations

Line Parameters	800KV	1200KV
Metallic Mode		
Resistance (ohm/km)	0.0079	0.0086
Inductance (mH/km)	0.909	0.935
Capacitance(nF/km)	12.81	12.80
Ground Mode		
Resistance (ohm/km)	0.223	0.228
Inductance (mH/km)	2.534	2.450
Capacitance (nF/km)	10.20	10.90
Length (km)	2500	2500

Equipment parameters

Smoothing reactor: 0.4H

DC fliters capacitance: 5uF

Converter Transformer reactance: 18%

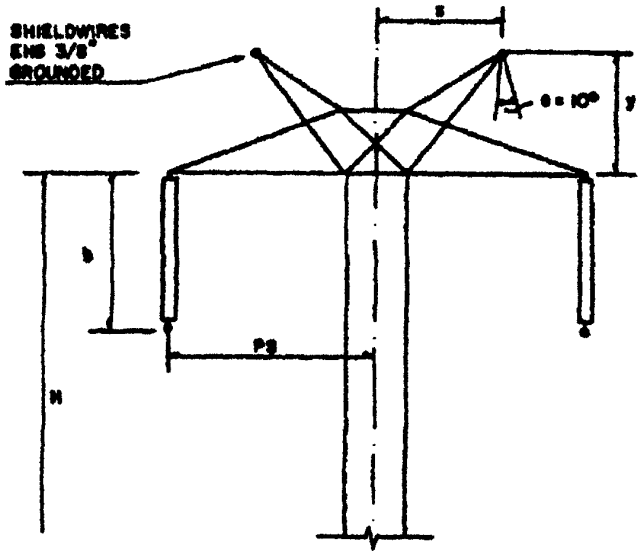
Arresters	Valve	12 Pulse Unit
Base voltage (kv peak) (300 kv twelve pulse unit)	224.3	416.5
Energy per column (MJ)	1.1	2.1

IR Curves

For impulse surge (8 x 20 us wave)		For Switching Surge (45 x 90 us wave)	
Current (KA)	Voltage pu of the base)	Current KA	Voltage (pu of the base)
3	1.41	0.10	1.21
5	1.45	1.00	1.28
10	1.6	2.00	1.38

Bipole Tower Configuration

BIPOLE TOWER CONFIGURATION



VOLTAGE (kV)	H (m)	b (m)	Ps (m)	x (m)	y (m)	CONDUCTOR
800	38.2	5.5	14.5	6.0	1.7	4 x 1510 kcmil
800	44.2	7.0	19.2	8.0	2.0	6 x 1113 kcmil
1200	54.1	10.8	29.4	12.5	2.0	6 x 1590kcmil

NOTE: CONDUCTOR SAG = 20 m
SHIELDWIRE SAG = 18 m
SUBCONDUCTOR SPACING = 45 cm
SOIL RESISTIVITY = 1000Ωm

Induced Voltages With Filter (1500 km Line Length)

	600kv Induced Voltage (mVC/km)			800kv Induced Voltage mVC/km)			
	Sending	Middle	Receiving	Sending	Middle	Receiving	Rectifier
12	9.2	3.0	4.0	10.5	3.7	5.1	
24	18.1	4.3	2.6	20.2	5.8	3.8	
36	27.4	5.6	2.3	21.1	4.2	2.3	
48	25.8	5.0	6.3	25.7	0.2	1.5	
Total	42.8	9.2	8.2	40.3	8.1	6.9	
12	5.3	2.4	3.4	6.2	2.9	3.6	Inverter
24	15.5	12.9	4.3	17.0	13.5	4.1	
36	11.7	12.0	11.2	20.9	21.1	21.1	
48	19.7	18.2	4.0	7.5	4.1	6.6	
Total	28.9	25.4	13.1	28.6	25.5	22.8	
12	10.6	3.8	5.2	12.2	4.7	6.2	Total
24	23.8	13.6	5.0	26.4	14.7	5.6	
36	29.8	13.2	11.4	29.7	21.5	21.2	
48	32.5	18.0	7.5	26.8	4.1	6.8	
Total	51.2	27.0	15.4	49.5	26.8	23.8	

1200 kv Induced Voltage (mVC/km)				
	Sending	Middle	Receiving	Rectifier
12	12.4	4.8	7.5	
24	24.4	5.2	8.4	
36	19.1	10.0	8.6	
48	28.7	0.8	3.1	
Total	44.0	12.3	14.5	
12	7.9	3.9	4.5	Inverter
24	20.8	15.2	5.0	
36	17.3	17.4	17.0	
48	6.7	3.2	5.6	
Total	29.0	23.6	19.1	
12	14.7	6.1	8.7	Total
24	32.1	16.1	9.8	
36	25.8	20.1	19.1	
48	29.5	3.3	6.4	
Total	52.7	26.7	24.0	

The interruption current for a converter station of 600, 800, 1000 and 1200 kv composed of valve groups of 300, 500 and 600 kv, considering nominal parameters, 60 HzAC system and transformer reactance of 18% is present in Table 4.

By-Pass Breaker Interrupting Current For Different Voltage and Current Conditions

Table 4.

12 Pulse Bridge Convertor Voltage (kv)	Nominal Current (ka)	Uv (kv)	Lt mh	ip+ A	ip- A
300	2.5	126.77	17.12	152	305
	3.0		14.26	183	366
	3.5		12.22	214	427
400	2.5	169.05	22.83	152	305
	3.0		19.02	183	366
	3.5		16.30	214	427
500	2.5	211.33	28.54	152	305
	3.0		23.78	183	366
	3.5		20.38	214	427
600	2.5	253.61	34.25	152	305
	3.0		28.54	183	366
	3.5		24.46	214	427

Converter Transformers

Basic Data For The Alternatives For 600 kv 12 Pulse Unit

Fixed Parameters

Frequency (Hz)		:	60
Reactance (in percent of tranformed rated power)		:	18
Nominal voltages (kv)		:	500/253.6
Primary winding maximum voltage (kv)		:	550
Secondary winding maximum voltage (kv) with nominal turns ratio		:	279
On load tap changer (primary side) (%)	Min	:	-6 x 1.25%
	Max	:	26 x 1.25%

Rated Power

Alt. 1 Three phase transformer, 3 windings Unit rated power (MVA)	1800	2160	2520
Alt. 2 Single phase transformer, 3 windings Unit rated power (MVA)	600	720	840
Alt. 3 Three phase transformer, 2 windings Unit rated power (MVA)	900	1080	1260
Alt.4. Single phase transformer, 2 windings Unit rated power (MVA)	300	360	420

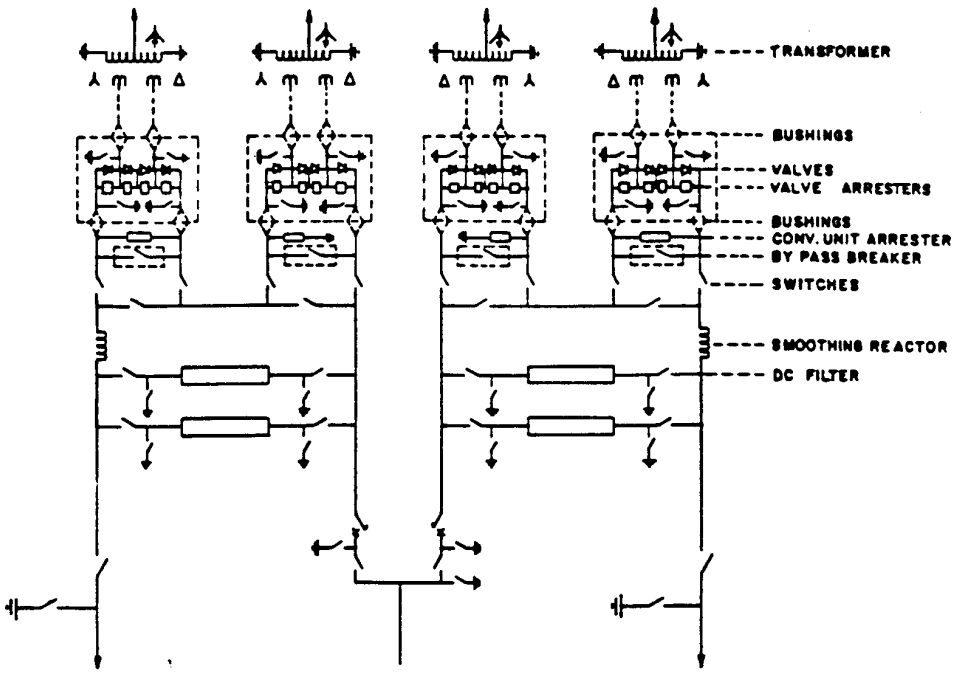
Insulation

Windings			
BIL (Basic Impulse Level - Full wave)	1550	1675	950
BSL (Basic Switching Level)	1175	1550	850

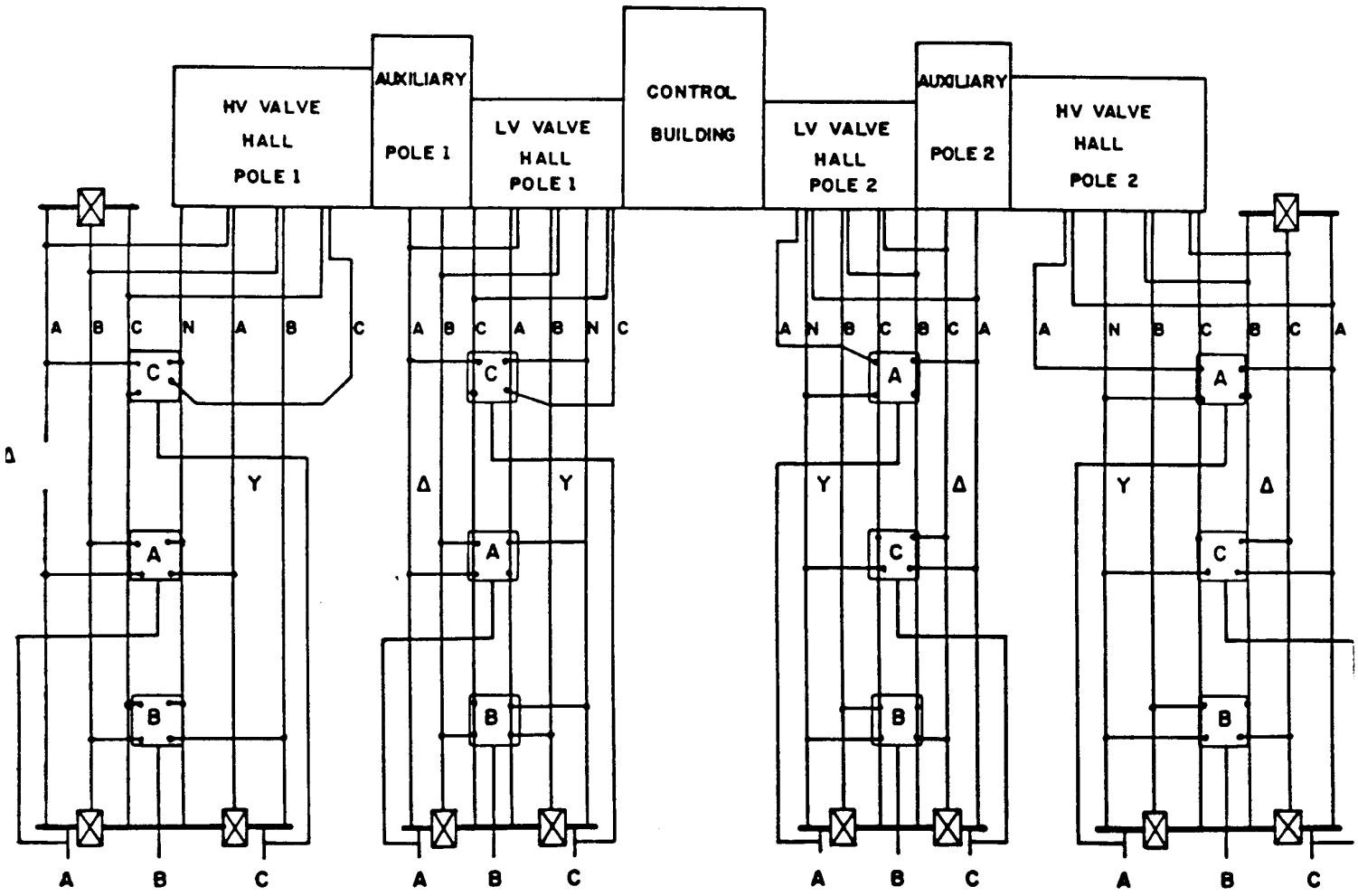
Bipole Ratings

Rated DC Voltage (kv)	Rated DC Current (kA)	Rated DC Power (Mw)
600	2.5	3000
	3.0	3600
	3.5	4200
800	2.5	4000
	3.0	4800
	3.5	5600
1000	2.5	5000
	3.0	6000
	3.5	7000
1200	2.5	6000
	3.0	7200
	3.5	8400

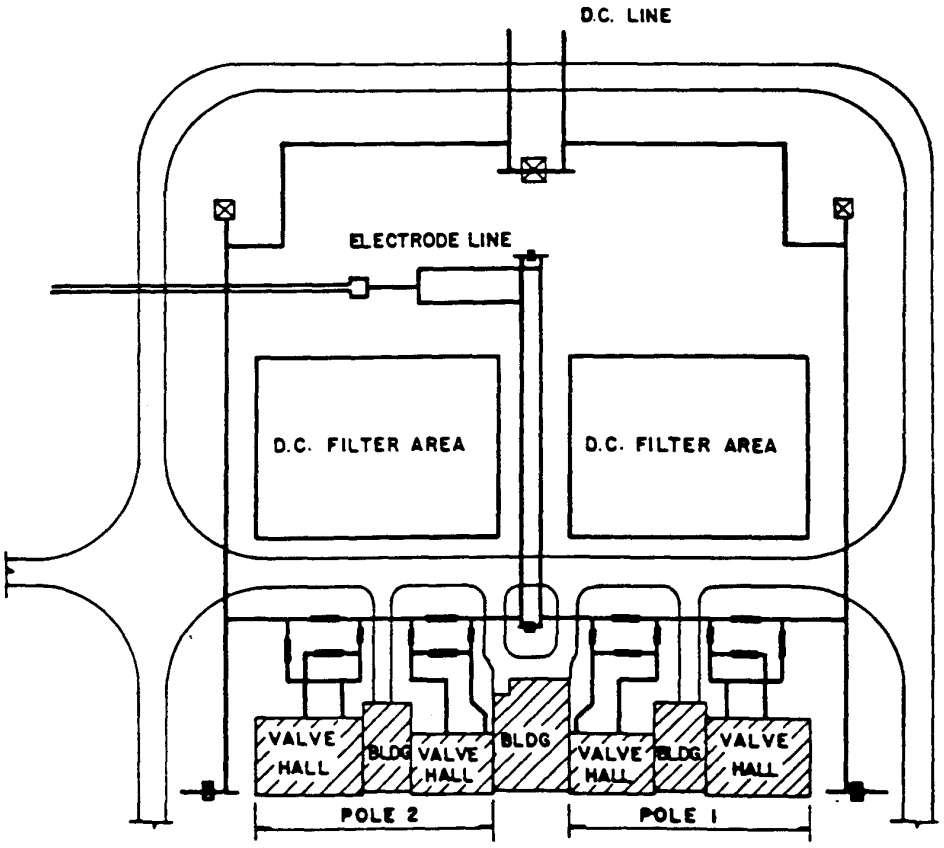
Single Line Diagram of the Converter Station



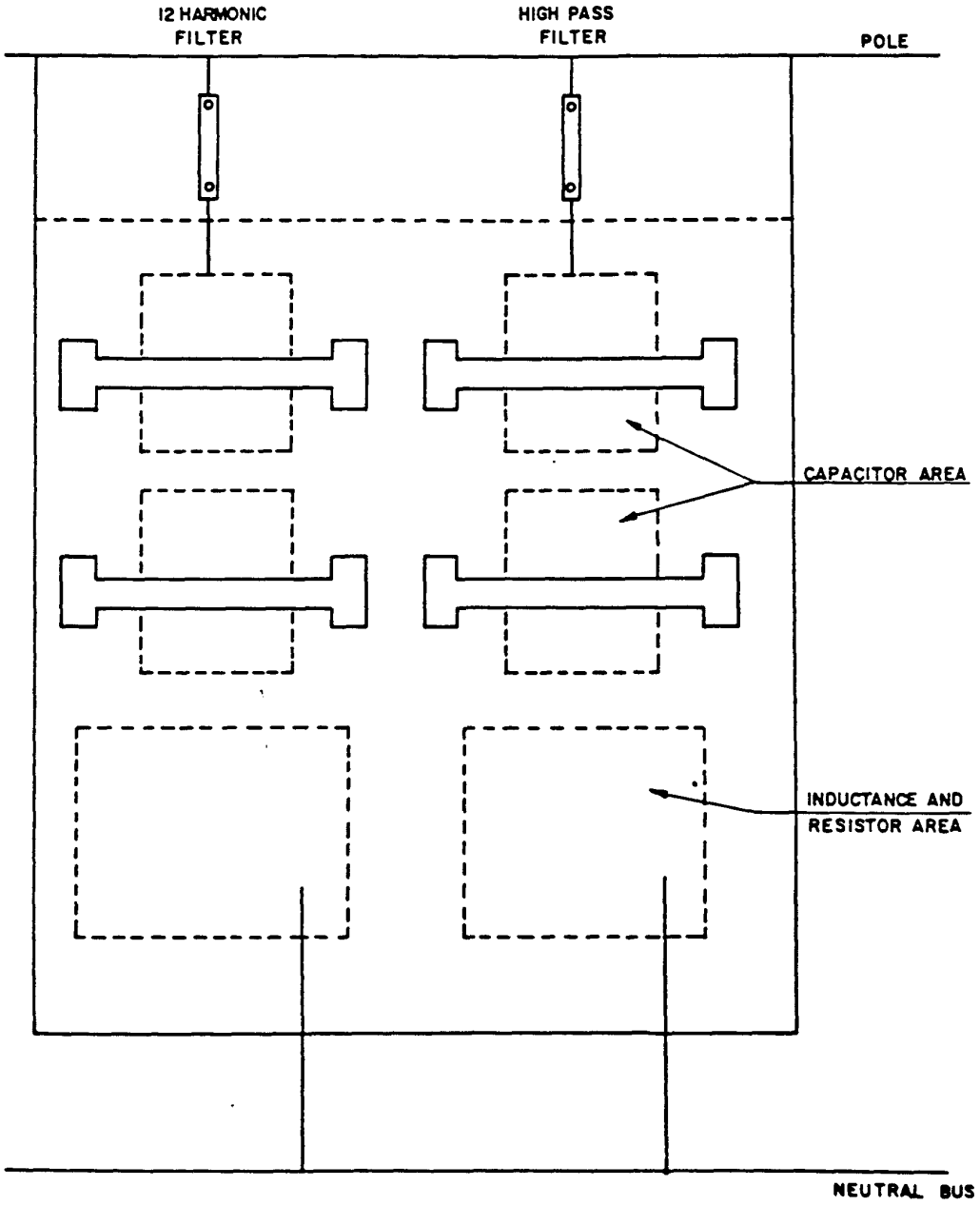
Basic Layout of Converter Transformer Yard



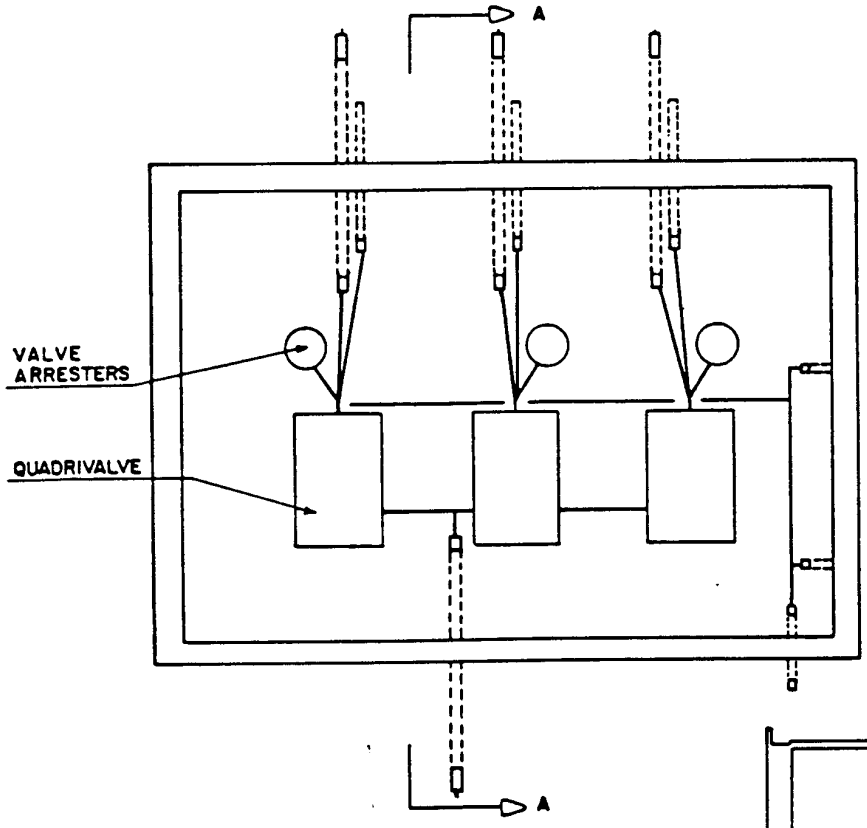
Basic Layout of DC Switchyard



Basic Layout of DC Filter Arrangement

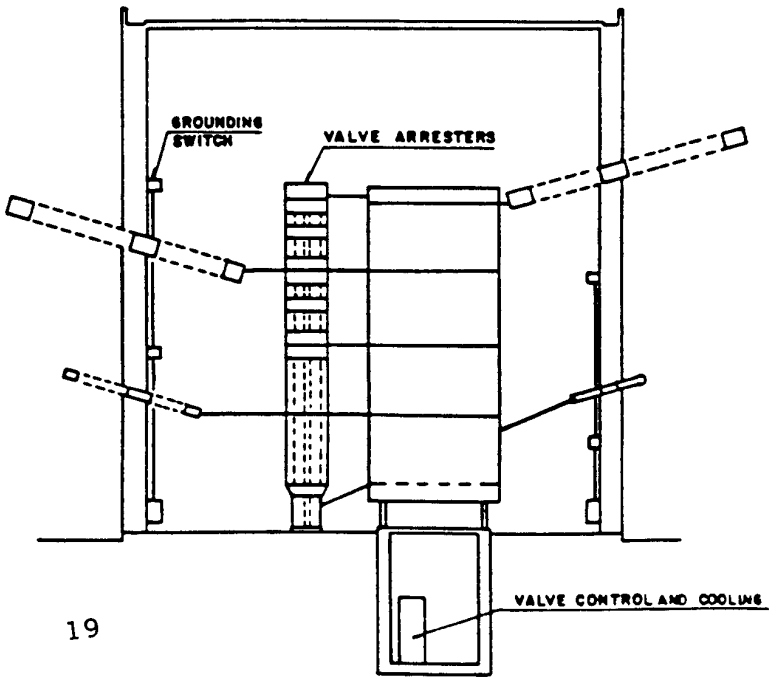


Basic Layout of Valve Hall

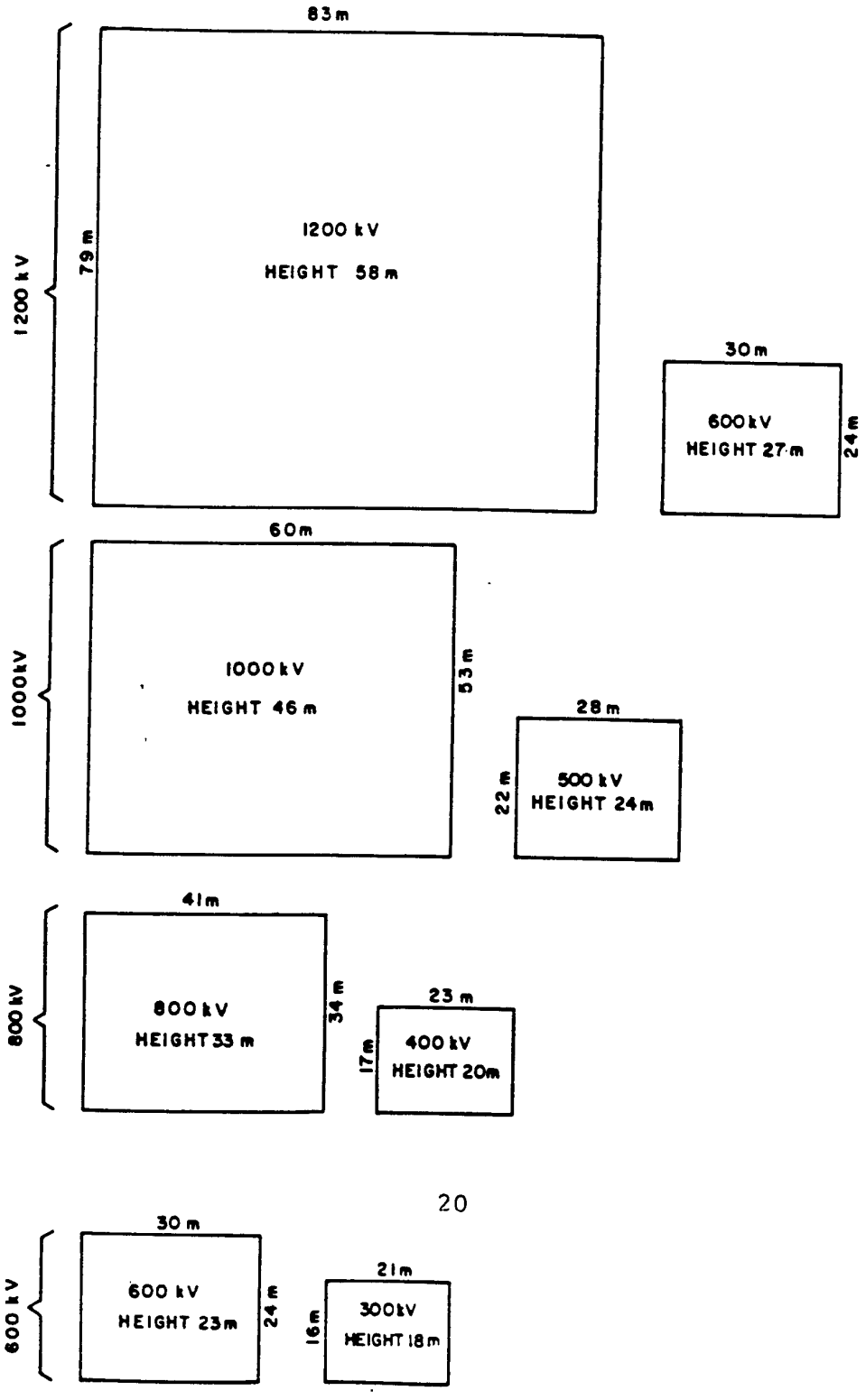


PLAN

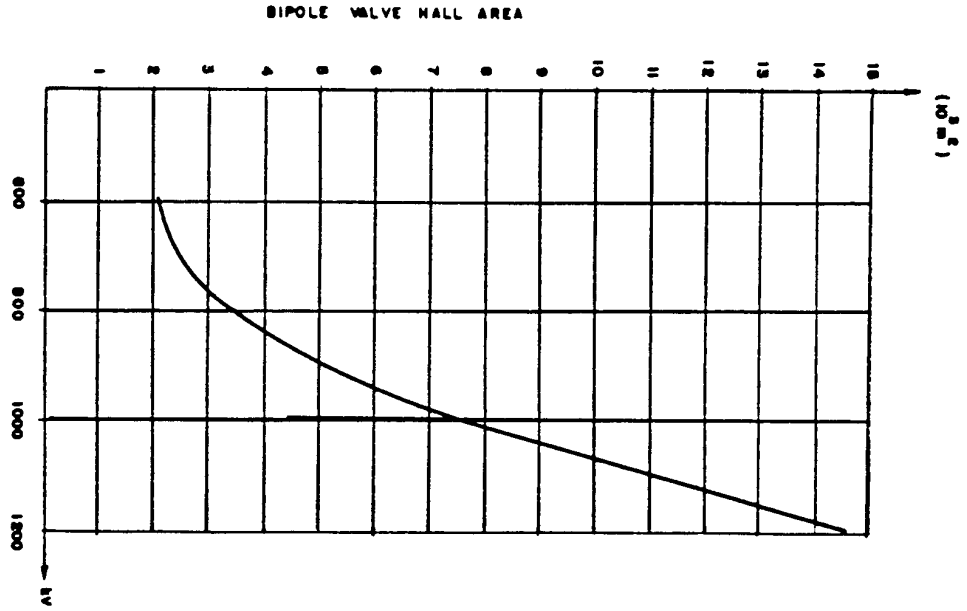
SECTION AA

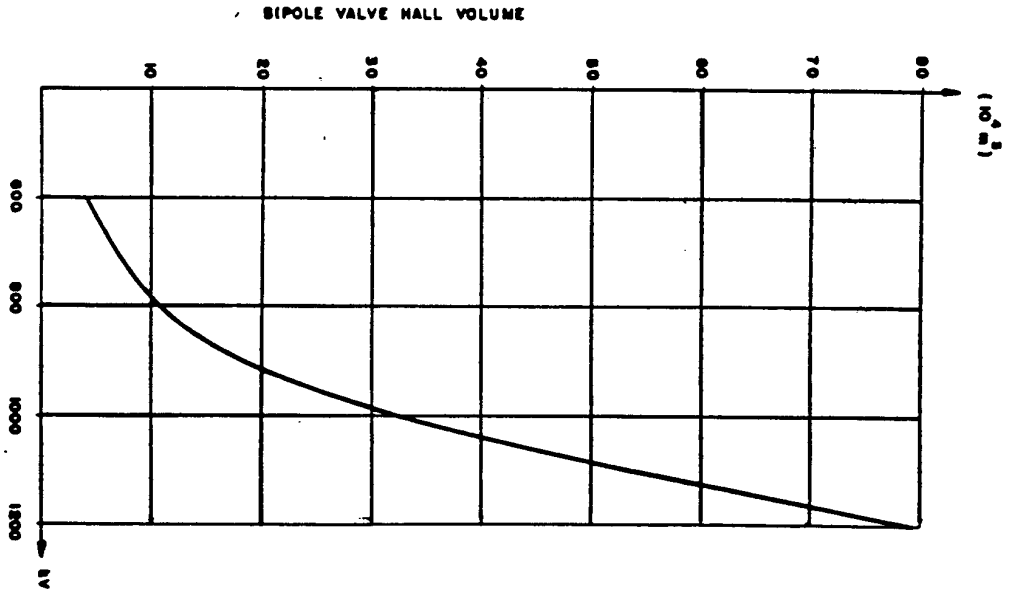


Valve Hall Dimensions in Meters

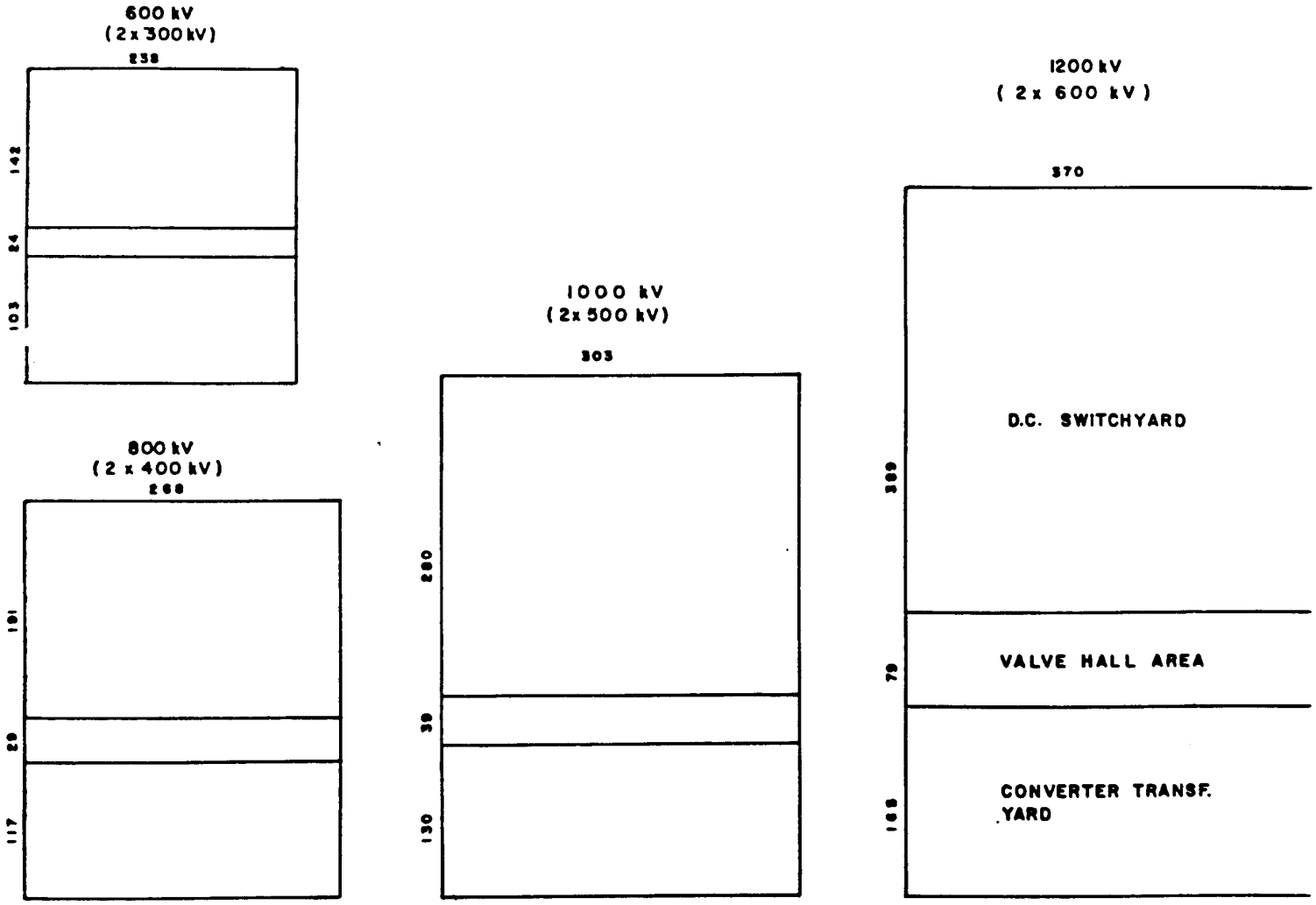


Valve Hall Area and Volume as Function of the Voltage

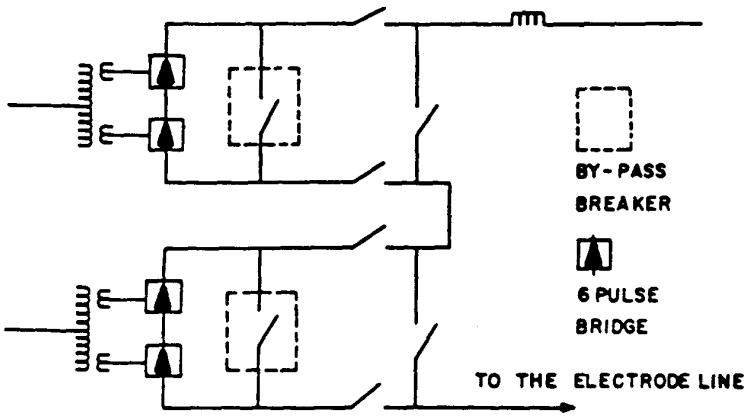




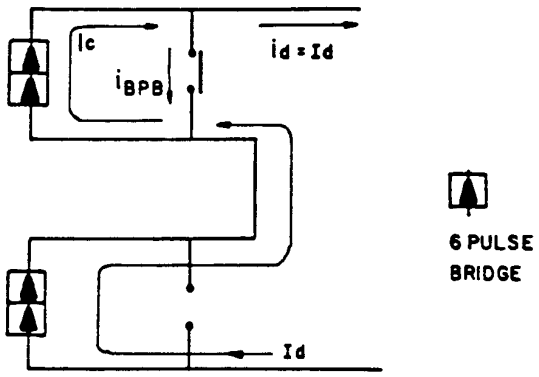
Estimated Bipole Areas for Different Voltages (Values in Meters)



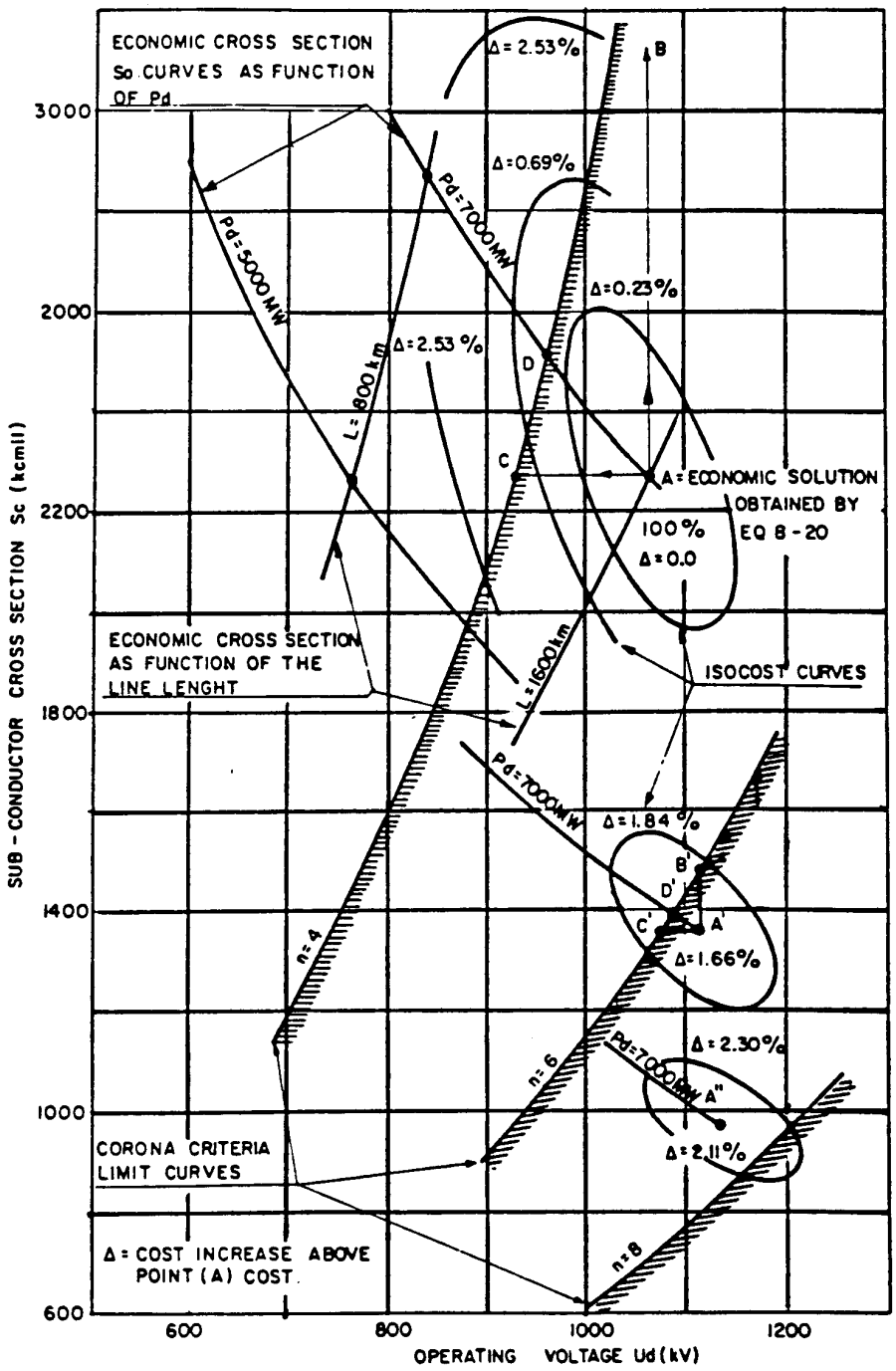
By-Pass Breakers Location in a Pole



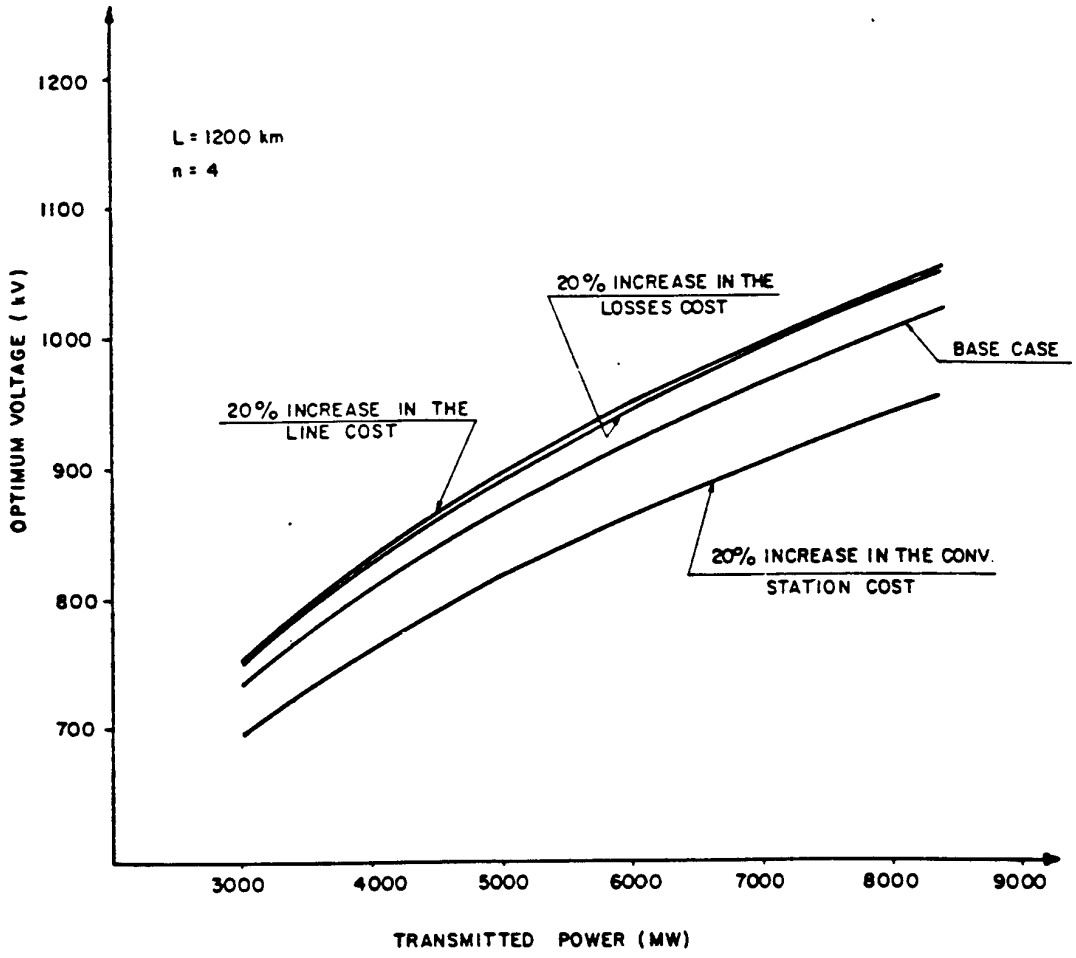
Current Paths Before the By-Pass Breaker Opening



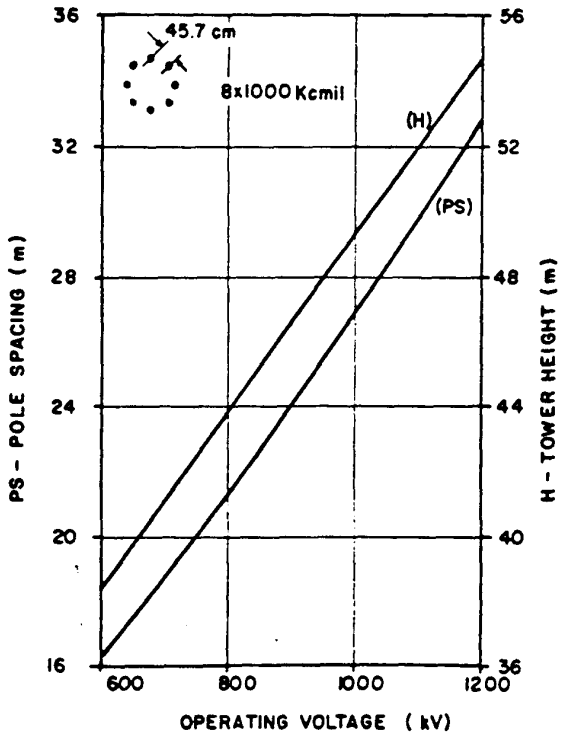
Consideration of Corona Effect. (Example 7000 MW, 1600 Km)



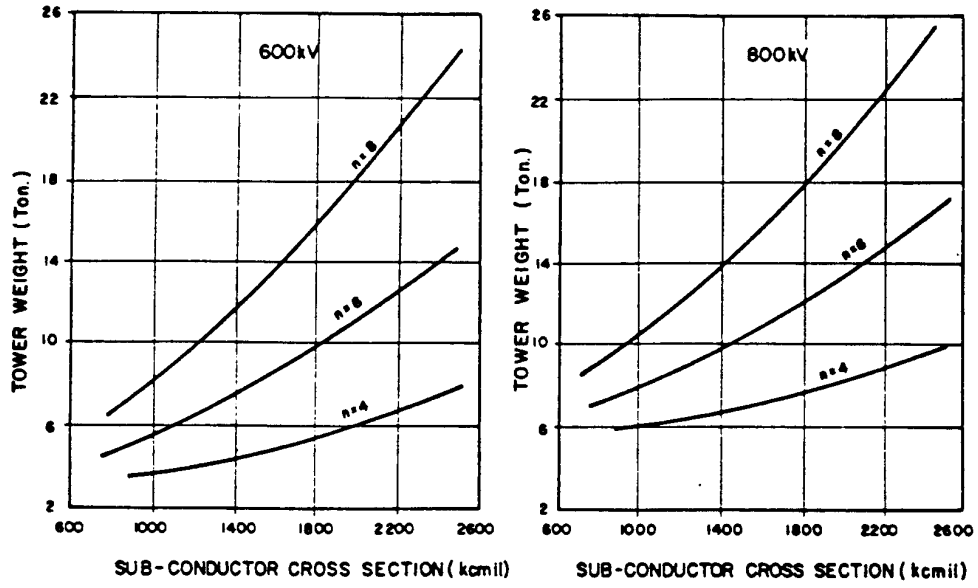
Sensitivity Analysis: Optimum Voltage Level as a Function of the Transmitted DC Power for 1200 Km Line Length and 4 Sub-Conductors per Pole.

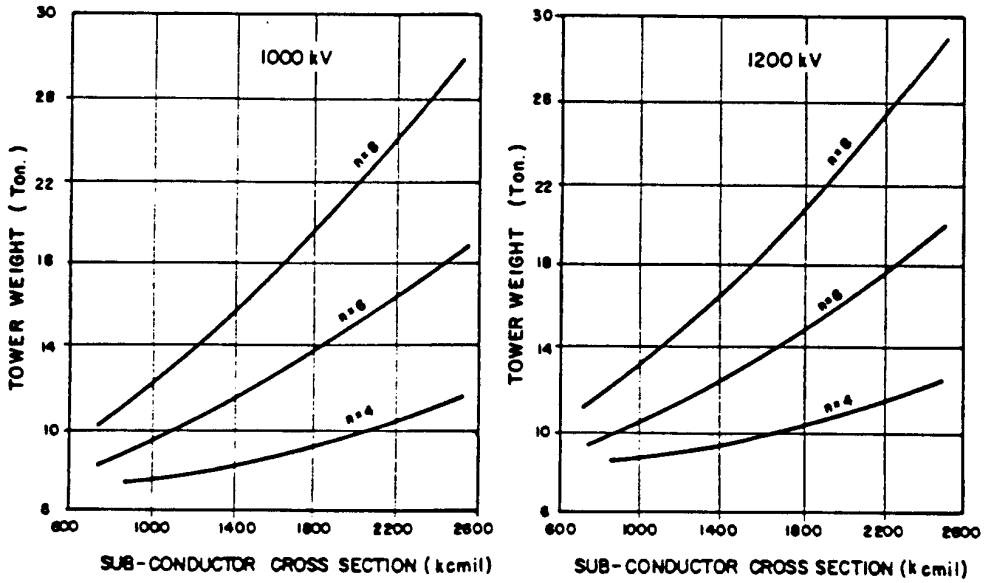


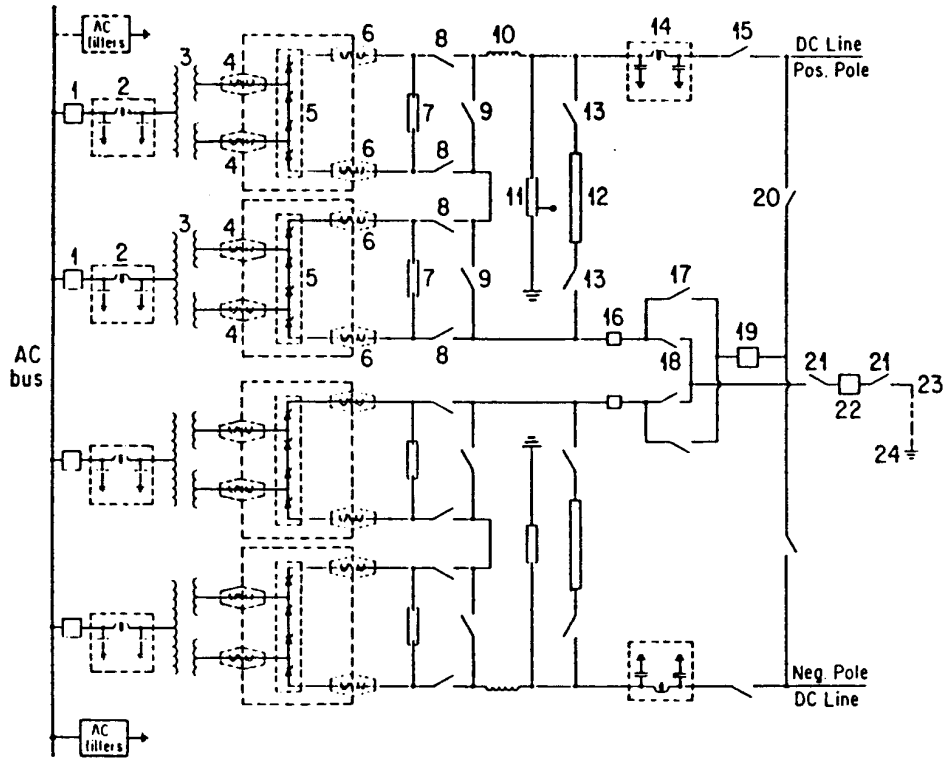
Pole Spacing and Tower Height as a Function of Operating Voltage for 8 X 1000 Kcmil Bundle Configuration. Conductor Temperature is 60oC



Tower Weights as a Function of Operating Voltages







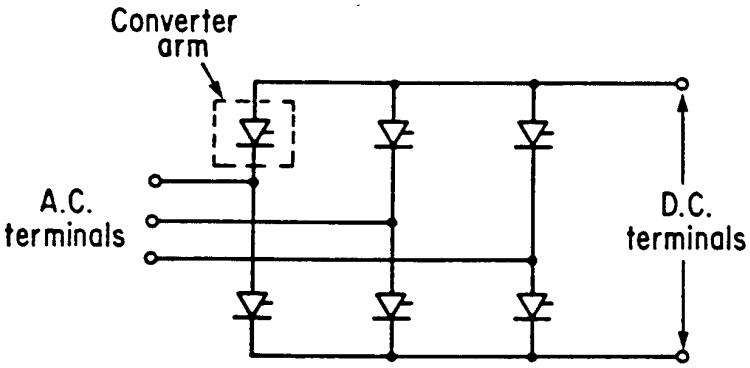
Legend

1. AC Circuit Breaker
2. Power Line Carrier Filters
3. Converter Transformer
4. AC-Side Wall Bushings
5. Valves
6. DC-Side Wall Bushings
7. VG High-Speed Bypass Switch
8. VG Terminal Disconnecting Switches
9. VG Bypass Disconnecting Switch
10. Smoothing Reactor
11. DC Voltage Divider

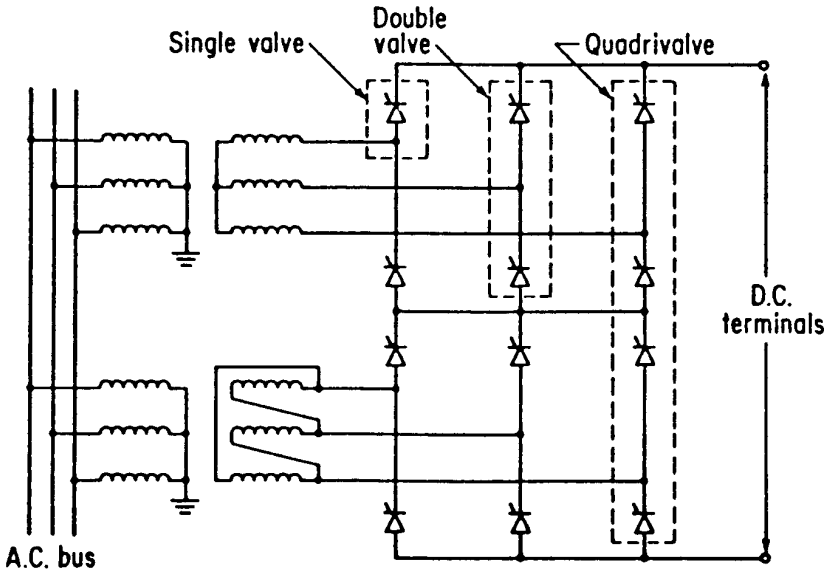
VG = Valve Group

12. DC Filters
13. DC Filter Disconnecting Switches
14. Power Line Carrier Filters
15. DC Pole Bus Load Switch
16. Neutral Bus Load Switch
17,18. Neutral Bus Disconnecting Switches
19. Ground Return Transfer Breaker
20. Pole Bypass Switches for Metallic Return Operation
21. MRTB Disconnecting Switches
22. Metallic Return Transfer Breaker;MRTB
23. Electrode Line
24. Romote Ground Electrode

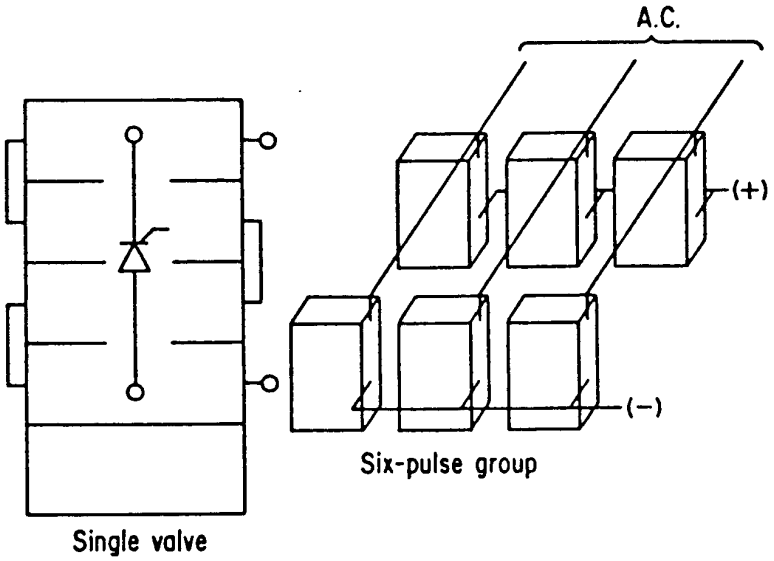
Schematic of a Typical HVDC Converter Station
Source:Adapted from Proceding Incorporation HVDC Power Transmission into System Planning, Phoenix, March 1980 p.230.



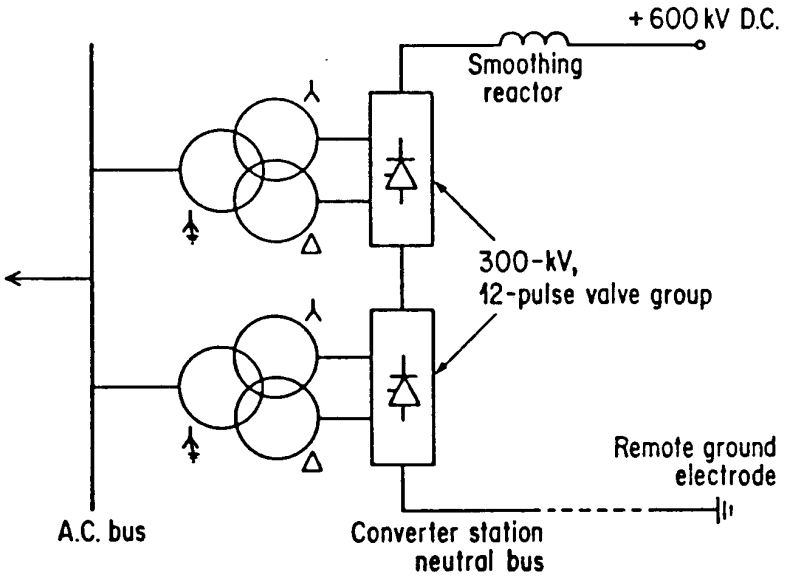
Three-Phase Six-Pulse Bridge Converter
Source: Terminology for High Voltage Direct Current Transmission, IEC Standard 633, 1978, p.40.



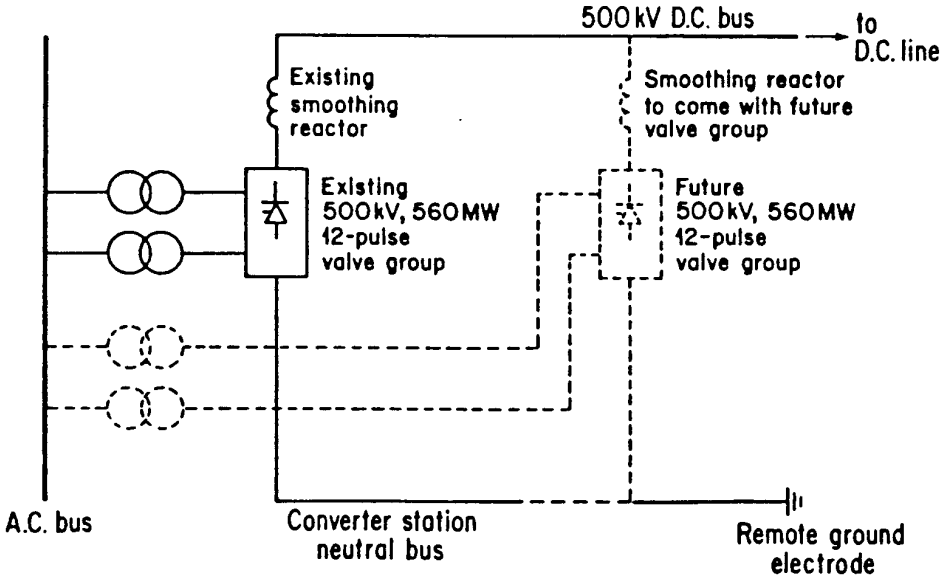
Twelve-Pulse Cascade Connection of Two Three-Phase Six-Pulse Bridges
Source:Adapted from Electra. October 1984, p.145.



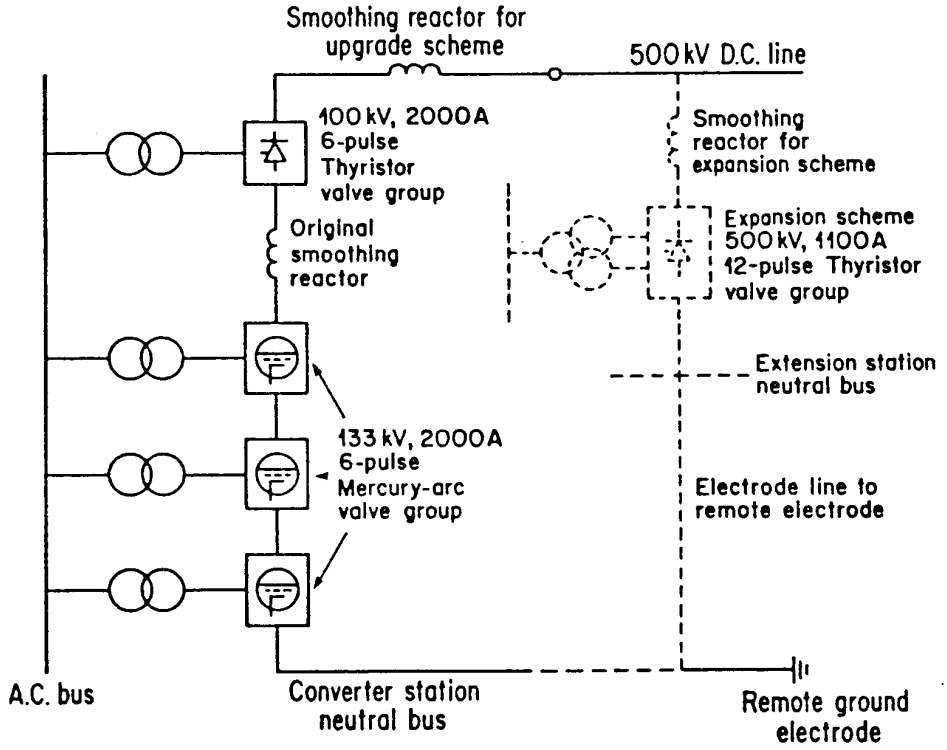
Single-Valve Configuration



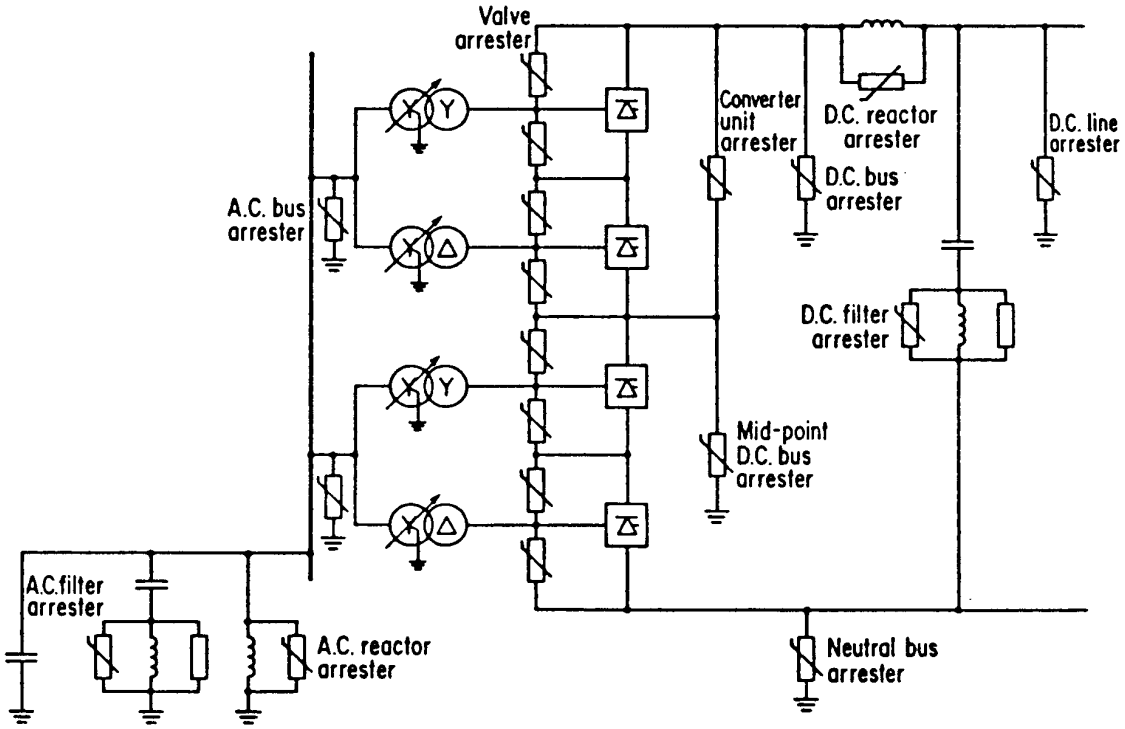
Converter Arrangement for the Itaipu DC System Stations
(only one pole shown)
Source: Adapted from The Itaipu HVDC Transmission, ASEA pamphlet KS 10-106E, 1982.



Converter Arrangement for Inga-Shaba DC System Stations
(only one pole Shown)
Adapted from paper entitled The Inga Shaba EHVDC Intertie, presented at CIGRE Study Committee 14 Colloquium, June 1977, Winnipeg.



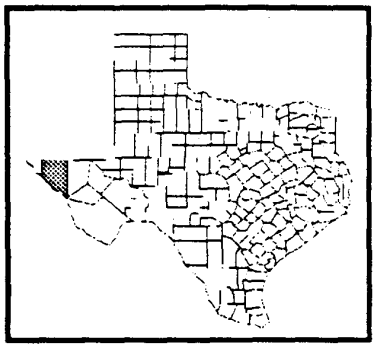
Converter Arrangement for the Pacific HVDC Intertie Stations Including Upgrade and Expansion Schemes (only one pole shown)
Source: Adapted from Proceedings International Conference on DC Power Transmission, Montreal, June 1984, p.52.

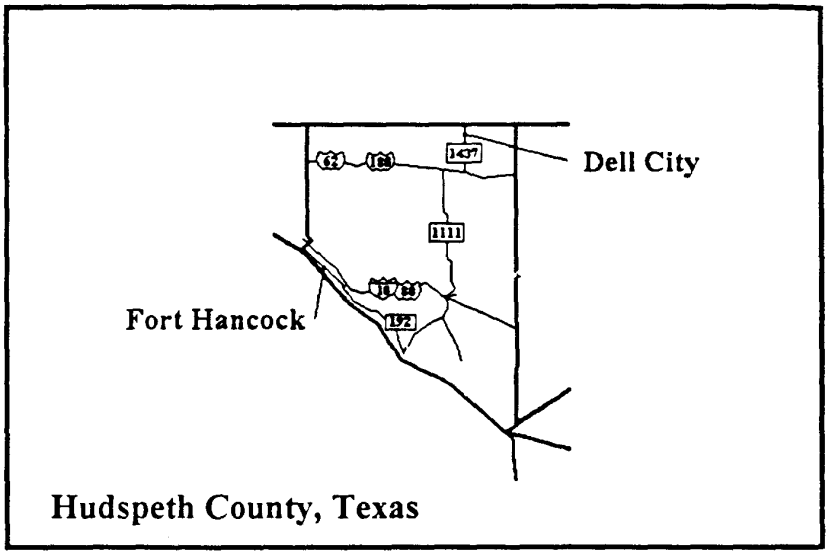


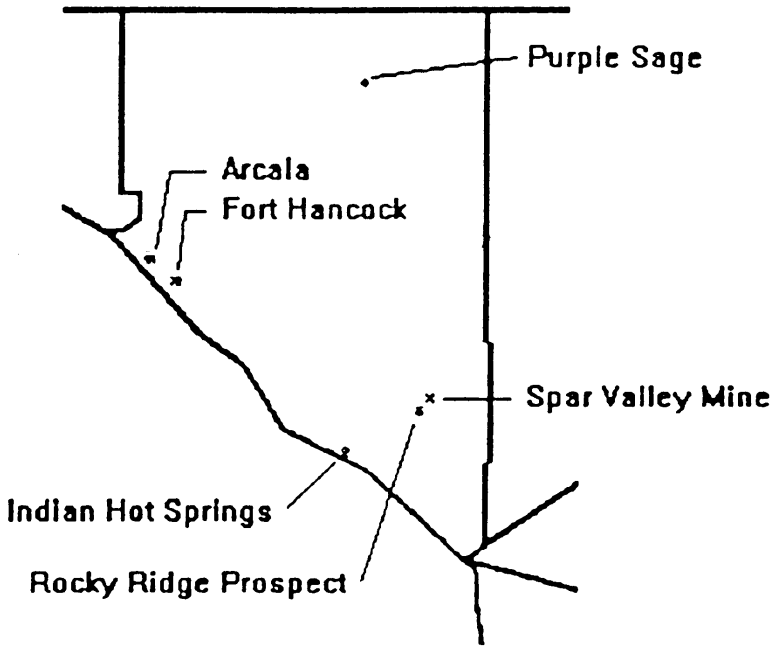
Typical Arrester Arrangement for an HVDC Converter Station
(only one pole shown)
Source: October 1984, p.108.

EXHIBIT D

GENERAL MAP AND DETAILS




Dell City
1111
Fort Hancock
192
Hudspeth County, Texas


Purple Sage
Arcala
Fort Hancock
Spar Valley Mine
Indian Hot Springs
Rocky Ridge Prospect